



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,952	03/30/2004	Hatsuo Ishida	FUJ-002-USA-P	3101
7590 TOWNSEND & BANTA c/o PortfolioIP P.O. Box 52050 Minneapolis, MN 55402			EXAMINER FEELY, MICHAEL J	
		ART UNIT 1712	PAPER NUMBER	
		MAIL DATE 06/15/2007	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/811,952	ISHIDA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael J. Feely	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 March 2004.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### *Pending Claims*

Claims 1-16 are pending.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (US Pat. No. 6,207,786) in view of Ishida (US Pat. No. 5,543,516).

Regarding claims 1, 2, 5, 6, 9, 10, 13, and 14, Ishida et al. disclose:

(1) a thermosetting resin composition comprising: (a) an epoxy compound (*see Abstract; claims*) and (b) a benzoxazine compound (*see Abstract; claims*), wherein the equivalent ratio of the epoxy compound to the benzoxazine compound is 1/(0.1 to 20) (*see column 1, line 54 through column 2, line 30; claims*); and (2) a thermosetting resin molding produced by thermally molding the thermosetting resin composition of claim 1 (*see column 8, lines 9-19; claims*);

(5) a thermosetting resin composition comprising: (a) an epoxy compound (*see Abstract; claims*), (b) a benzoxazine compound (*see Abstract; claims*), and (c) a curing agent for the epoxy compound (*see Abstract; claims*), wherein the equivalent ratio of the epoxy compound/benzoxazine compound/curing agent for the epoxy resin is 1/(0.1 to 20)/(0 to 1.2) (*see column 1, line 54 through column 2, line 30; claims*); and (6) a thermosetting resin molding

Art Unit: 1712

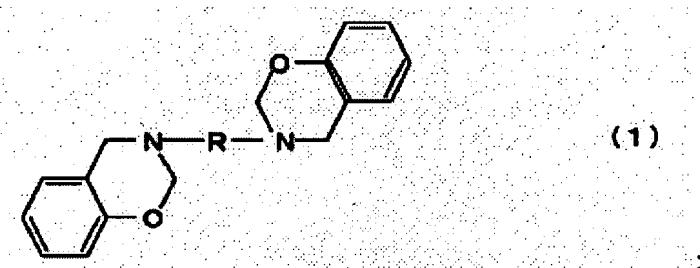
produced by thermally molding the thermosetting resin composition of claim 1 (*see column 8, lines 9-19; claims*);

(9) a thermosetting resin composition comprising: (a) an epoxy compound (*see Abstract; claims*), (b) a benzoxazine compound (*see Abstract; claims*), and (d) an inorganic filler (*see column 1, lines 37-42; column 2, lines 31-41; Examples at column 9, line 60 through column 10, line 4*), wherein the equivalent ratio of the epoxy compound to the benzoxazine compound is 1/(0.1 to 20) (*see column 1, line 54 through column 2, line 30; claims*), and the amount of the inorganic filler is at most 400 parts by weight (*includes zero*) relative to 100 parts by weight of the total of the epoxy compound and the benzoxazine compound (*see column 1, lines 37-42; column 2, lines 31-41; Examples at column 9, line 60 through column 10, line 4; claims*); and  
(10) a thermosetting resin molding produced by thermally molding the thermosetting resin composition of claim 1 (*see column 8, lines 9-19; claims*);

(13) a thermosetting resin composition comprising: (a) an epoxy compound (*see Abstract; claims*), (b) a benzoxazine compound (*see Abstract; claims*), (c) a curing agent for the epoxy compound (*see Abstract; claims*), and (d) an inorganic filler (*see column 1, lines 37-42; column 2, lines 31-41; Examples at column 9, line 60 through column 10, line 4*), wherein the equivalent ratio of the epoxy compound/benzoxazine compound/curing agent for the epoxy resin is 1/(0.1 to 20)/(0 to 1.2) (*see column 1, line 54 through column 2, line 30; claims*), and the amount of the inorganic filler is at most 400 parts by weight (*includes zero*) relative to 100 parts by weight of the total of the epoxy compound, the benzoxazine compound and the curing agent for epoxy resin (*see column 1, lines 37-42; column 2, lines 31-41; Examples at column 9, line 60 through column 10, line 4; claims*); and (14) a thermosetting resin molding produced by

thermally molding the thermosetting resin composition of claim 1 (*see column 8, lines 9-19; claims*).

Ishida et al. do not explicitly disclose the bi-functional dihydrobenzoxazine compound of general formula (1)



however, they incorporate a number of benzoxazines made from a solventless method set forth in US Pat. No. 5,543,516 (*see column 2, lines 57-63*).

Ishida (US Pat. No. 5,543,516) disclose a number of benzoxazine compounds prepared by solventless methods including one corresponding to formula (1) of the instant claims (*see column 10, line 60 through column 11, line 15*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a bi-functional dihydrobenzoxazine compound of general formula (1), as taught by Ishida, in the composition of Ishida et al. because the teachings of Ishida are incorporated by reference into the teachings of Ishida et al. resulting in a composition having increased thermal stability thus opening the possibility of lower filler loading with equivalent physical properties and low flammability.

Regarding claims 3, 7, 11, and 15, the teachings of Ishida et al. and Ishida fail to disclose specifics regarding the properties of dielectric constant and dielectric loss tangent. However, since the material limitations have been satisfied, it appears that these properties would have

been an inherent result or an obvious variation of the teachings set forth by Ishida et al. and Ishida.

It has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, the property limitations of claims 3, 7, 11, and 15 would have been inherently or obviously present in the combined teachings of Ishida et al. and Ishida because the combined teachings satisfy all of the material/chemical limitations of the instant invention.

Regarding claims 4, 8, 12, and 16, the teachings of Ishida et al. and Ishida fail to disclose specifics regarding the properties of Young's modulus and elongation break. However, since the material limitations have been satisfied, it appears that these properties would have been an inherent result or an obvious variation of the teachings set forth by Ishida et al. and Ishida.

It has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, the property limitations of claims 4, 8, 12, and 16 would have been inherently or obviously present in the combined teachings of Ishida et al. and Ishida because the combined teachings satisfy all of the material/chemical limitations of the instant invention.

***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined limitations of claims 1-20 of U.S. Patent No. 6,207,786 in view of Ishida (US Pat. No. 5,543,516).

The claims are obvious for the reasons set forth above in section 2 of this Office action.

*See MPEP 804 II B 1: In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

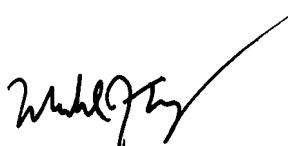
Art Unit: 1712

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1712

June 11, 2007

**MICHAEL FEELY  
PRIMARY EXAMINER**